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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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|-----------------|-------------|----------------------|---------------------|------------------|

10/581,731

06/06/2006

Byron P. Day

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05/21/2008

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EXAMINER

TOLIN, MICHAEL A

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

05/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/581,731 | Applicant(s) DAY ET AL. | |
| | Examiner MICHAEL A. TOLIN | Art Unit 1791 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5-22-07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-13 and 18 in the reply filed on 10 March 2008 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morman'992 (US 5226992) in view of Cree (US 2003/0022582) and Hovis (US 4842794).

Morman'992 teaches a method of producing a laminate material by bonding a film to a nonwoven material (Abstract; Figure 1; column 5, lines 57-59; column 6, lines 47-54). Although Morman'992 does not teach forming the film into an open mesh or netting, it is generally known in the art to provide the film as an open mesh in order to make the laminate breathable, as evidenced by Cree (Abstract; Paragraph 33; Figure 4). As to the claimed steps of extruding, forming, and exposing, this method of forming an open mesh material from a film is generally known, as evidenced by Hovis (Abstract;

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Figures 1A-7; column 2, lines 11-12 and lines 44-51; column 4, lines 45-52; column 6, lines 11-34). Hovis teaches that this method of manufacturing an open mesh from a film is advantageous in that a broad range of physical properties can be provided to the finished product (Abstract; column 2, lines 5-10). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the film of Morman'992 by the claimed steps of extruding, forming, and exposing because one of ordinary skill in the art would have been motivated to achieve breathability in accordance with the teachings of Cree and one of ordinary skill in the art would have been motivated to provide a breathable film which can be provided with a broad range of physical properties in accordance with the teachings of Hovis.

Regarding claim 2, as to forming a pattern of closed shapes, this is shown by Figure 4 of Hovis. Additionally, Hovis suggests the use of geometric shapes such as diamonds which would satisfy the claimed closed shapes (column 5, lines 30-44). As to the sheet material being extensible in at least two directions, the elastic sheet of Morman'992 is clearly extensible in at least two directions and would therefore be expected to provide the laminate with at least some degree of bidirectional stretch.

Claims 3 and 18 have been satisfied for the reasons set forth above.

The limitations of claims 4-6 are clearly taught by Morman'992 (column 4, lines 1-4; column 5, lines 57-59).

4. Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patchell (US 3441638) in view of Schmidt (US 4248822) and Hovis.

Patchell teaches a method of producing a material comprising the steps of extruding a thermoplastic film, passing the extruded film through the nip of a closed shape patterned roll and a flat anvil roll, forming a pattern in the film with the rolls such that there are thicker and thinner areas in the film corresponding to the patterned roll, and passing the patterned film by a heated air stream to remove polymer in the thinner areas and create a netting material (Figures 1-18; Abstract; column 2, lines 40-49; column 3, lines 1-5; column 4, lines 10-21; column 7, lines 3-9). As to the preamble requirement of a "stretch material", films made from the materials suggested by Patchell (column 2, lines 3-13) are capable of being stretched without breaking and thus satisfy the limitation of producing a stretch material.

Patchell does not recite that the pattern is formed while chilling the film. However, it is generally well known in the art that embossing rolls can be chilled. In particular, to provide embossing the material must be in a heated flowable state. However, for the embossed pattern to remain in the material, it must be cooled to a more stable non-flowable state. As evidence for these assertions, Schmidt is cited (column 1, lines 58-62; column 2, lines 31-33). Schmidt provides further motivation for providing the claimed cooling. Schmidt explains that cooling allows for molecular orientation in a thinned portion of the film which facilitates opening of the thinned portion by subsequent heat treatment (column 3, lines 43-68; column 4, lines 26-41). It would have been obvious to one of ordinary skill in the art at the time of the invention to

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provide the claimed limitation of chilling because one of ordinary skill in the art would have been motivated to ensure the embossed pattern remains in the material in accordance with well known embossing methods or because one of ordinary skill in the art would have been motivated to facilitate opening of the thinned portions in accordance with the teachings of Schmidt.

As to the limitation of maintaining the film under tension while treating with a heated air stream, this limitation appears to be satisfied by Patchell's suggestion of applying hot air while the film is carried by a metal roll (column 3, lines 5-12). Since the heating causes shrinking of the thinned areas, tension would naturally be applied to the film. In any event, it is also known to maintain a film under tension while heated air is applied to form openings in thinned portions of a film, as evidenced by Hovis (column 6, lines 24-34; column 4, lines 41-52). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the claimed limitation of tension while passing by a heated air stream because one of ordinary skill in the art would have been motivated to perform the application of hot air suggested by Patchell in accordance with known suitable methods such as that suggested by Hovis. Only the expected result of providing suitable conditions to open the thinned portions into apertures has been achieved.

Regarding claim 13, Patchell recognizes that the shape of the openings in the final product is controlled by the shape and arrangement of the thinned portions and the degree of stretching in different directions (column 5, lines 23-26). Patchell also suggests in certain embodiments predominately stretching in a longitudinal direction

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while restraining the material in a transverse direction, thereby providing a relatively small degree of stretching in the transverse direction (column 2, lines 20-23 and lines 35-39). Naturally, when there is predominant stretching in a longitudinal direction, one of ordinary skill would provide thinned portions which are elongated in the transverse direction because little stretching occurs in this direction. Additionally, in view of Patchell's above noted teachings, selecting the shape of the thinned portions in order to provide openings of a desired shape in the final product involves no more than routine experimentation for one of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the claimed elongation the cross-machine direction because one of ordinary skill in the art would have been motivated to achieve openings of a desired shape in the final product as a matter of routine experimentation in view of the teachings of Patchell.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patchell in view of Schmidt and Hovis as applied to claims 7 and 13 above, and further in view of Blais (US 3985600).

Blais is provided as further evidence of the examiner's assertion that one of ordinary skill in the art would have provided cross-machine elongated thinned portions in order to achieve openings of a desired shape in the final product. Blais clearly provides the claimed elongation in the cross-machine direction in combination with controlled stretching in different directions to provide a final product with openings

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having a desired shape (Abstract; column 3, lines 30-33). Only the expected result of providing an opening with a desired shape has been achieved by this limitation.

6. Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morman'992 in view of Cree, and further in view of Patchell and Schmidt, and optionally further in view of Hovis.

Morman'992 and Cree are applied as set forth in the rejection of claims 1-6 and 18 above. Patchell and Schmidt are applied as above in the rejection of claims 7 and 13 for providing a known suitable method of forming an open mesh sheet material. Hovis is optionally applied as evidence that there would have been a reasonable expectation of success in using the method of Patchell with the elastic polymers suggested by Morman'992. It is clear from Hovis that such materials also shrink and open in thinned portions when subjected to heating (column 5, lines 45-58). It is also noted that providing a pattern on one of the two embossing rolls, as opposed to both rolls, has the clear advantage of requiring the expensive patterning of only one roll instead of two.

Regarding claim 11, this limitation is clearly taught by Morman'992 (Figure 3).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morman'662 (US 5116662) in view of Cree and Hovis.

To the extent that the claimed bidirectional stretch material is distinguished over the modified product of Morman'992, claim 2 is rejected here in the alternative.

Morman'662 teaches a method of forming a bidirectional stretch material by bonding a film to a sheet material that is extensible in two directions (Abstract; column 4, lines 22-30; column 6, line 65-67; column 7, lines 57-65). Cree and Hovis are applied as above in the rejection of claims 1-6 and 18 for suggesting the claimed steps of extruding and forming.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL A. TOLIN whose telephone number is (571)272-8633. The examiner can normally be reached on M-F 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael A Tolin/
Examiner, Art Unit 1791

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791